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# *Dahlica navacerradensis* Sobczyk, sp. n. from Central Spain (Lepidoptera: Psychidae)

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**Abstract**

A new psychid, *Dahlica navacerradensis* Sobczyk, sp. n., is described from central Spain. The differences to *Dahlica larella* (Chrétien, 1906) from Peñalara (Madrid, Spain) are given and comparison with related species within the genus *Dahlica* Enderlein, 1912 is made.
KEY WORDS: Lepidoptera, Psychidae, *Dahlica*, new species, Sierra Guadarrama, Spain.

*Dahlica navacerradensis* **Sobczyk, sp. n. de España central (Lepidoptera: Psychidae)**

**Resumen**

Se describe un nuevo psíchido, *Dahlica navacerradensis* Sobczyk, sp. n., de España central. Se dan las diferencias con *Dahlica larella* (Chrétien, 1906) de Peñalara (Madrid, España) y se compara con las especies relacionadas dentro del género *Dahlica* Enderlein, 1912.
PALABRAS CLAVE: Lepidoptera, Psychidae, *Dahlica*, nueva especie, Sierra de Guadarrama, España.

## Introduction

During 2013 the Sierra Guadarrama, Spain, has been visited to search for Psychidae. On rocks near Puerto de Navacerrada were found small larval cases of a species of Dahlicini. At first glance, the cases are different from *Dahlica larella* (Chrétien, 1906), and after the moths emerged it became clear that males and females show different characters. Eventually, a review of all known species of *Dahlica* revealed that these specimens belong to a so far undescribed species, which is described in this paper.

## Systematic part

***Dahlica navacerradensis* Sobczyk, sp. n.** (Figs 1-5)

Material: Holotype: ♂, Spain, Madrid, Puerto de Navacerrada, 1.800 m, 40º 47' 19" N, 4º 0' 13" W, 8-VI-2013, leg. T. Sobczyk, e. p. 12-VI-2013 (deposited at coll A. Vives / Museo Nacional de Ciencias Naturales, Madrid). Paratypes: 3 ♂♂, 2 ♀♀ same data (emerged 13-20-VI-2013) leg. et coll. T. Sobczyk.

Diagnosis: The new species belongs, within genus *Dahlica* Enderlein, 1912 to a group with broad forewing scales (scales classes 4-6 after SAUTER, 1956). In combination with a high genital index (>1.5), this group of species is confined to *D. triquetrella* (Hübner, [1813]) and *D. argenterae* (Wehrli, 1924) only.

*D. triquetrella* has larger cases (8-10 mm) with fragments of insect on the front-end than *D. navacerradensis* (5.5-6.1 mm) with small lichen and soil particles. The number of tarsal segments in females is five for *D. triquetrella* and four for *D. navacerradensis*. Males of *D. triquetrella* differ by a wider wingspan (13.5-18.5 mm) and scales class 3-5from the slightly smaller *D. navacerradensis* (12.2-12.6 mm) scales class 4.

The larger *D. argenterae* (wingspan 13.5-14.5) from Mount Argentera (Maritime Alps, province of Cuneo, Piemont, northern Italy), collected on the top at 3.300 m is only known from males which have the white spots on forewings very evenly distributed, while these spots are confined to the outer half of the wings of *D. navacerradensis*. Scales between discal area and apex are broader (class 4-5), mostly four times pointed and the cilia are tridentate. In *D. navacerradensis*, the scales between discal area and apex (class 4) are mostly tridentate and the cilia are four times pointed. All forewing veins of *D. argenterae* are unstalked, *D. navacerradensis* has m1 and m2 shortly stalked. In hindwings, *D. argenterae* has m2 and m3 shortly stalked, *D. navacerradensis* has all veins unstalked.

*D. larella* is described and known only from Peñalara, about 10 km away from the type locality of *D. navacerradensis.* It differs by a very small male genital index (1.08 after SAUTER, 1958) and the scales of the eight abdominal segment of females are „geknöpft" (after SAUTER, 1956), but „ungeknöpft" in *D. navacerradensis*. The larval case of *D. larella* is comparatively broad (lenght: broadth ratio is about 2 : 1, *D. navacerradensis* more than 3 : 1). For further specific male characters compared to other species see tab. 1.

Description (figs 1-5): ♂. Forewing length within the type series 6.0-6.2 mm, 6.1 mm on average (n=3) and 6.2 mm in the holotype. Wingspan 12.2-12.6 mm (holotype 12.6 mm). Head covered by grey hair-like scales. Labial palpi reduced, two segmented, covered by grey scales. Antennae filiform, less than 1/2 of forewing length, with 24-27 segments, dorsal with small scales (grey, mixed with paler scales), ventral shortly ciliated. Distance between eyes in ventral view greater than their diameter (index 1.3). Ocelli absent. Thorax and tegulae covered by hair-like scales of the same colour as on the head. Legs pale grey. Forewing 3.1 times as long as wide, covered by dark grey scales with pale grey medium-sized spots and lines forming a grid on outer half of forewing. A dark spot on outer end of discal cell. Scales between discal area and apex mostly tridentate (class 4 SAUTER, 1956) and cilia four times pointed. Forewing venation with 9 veins leading from the discal cell and with presence of accessory cell. M1 and m2 shortly forked. Intercalary cell absent.

Hindwing slightly narrower than forewing, hyaline grey. The cilia line is weekly developed. Cilia light-coloured, narrow, at apex broader and with two- or three tips. Hindwing venation without additional cells, 6 veins leading from the discal cell. All veins unforked. Legs pale grey, foretibia without epiphysis, midtibia with one pair and hindtibia with two pairs of spurs. Abdomen dark grey to black. Genitalia characteristic for the genus *Dahlica*, genital index (HÄTTENSCHWILER, 1977) is 1.68-1.82 (n = 3), 1.76 on average.

Female: Body length 4.8-5.0 mm, body yellowish, head, thorax and tergites brown, anal hair-tuft present at the dorsal side, whitish with simple hairs ("ungeknöpft" after SAUTER, 1958), antennae with 14-16 antennal segments (n=2). Abdominal segment eight with a ventral field of long spines (three times longer than their diameter). Foretibia without epiphysis, tarsus with four segments. Middle legs without spurs, hind legs with one pair of short spurs. Female exuvial headplate (separated part of head, antennae and legs) with short antennal shell, not reaching end of second pair of legs.

Cases: The male case (fig. 4) is 5.6-6.1 mm long (n=6), 5.86 mm on average and 5.8 mm in the holotype, straight, 1.9-2.0 mm wide. The female case is shorter, 5.5-6.0 mm long (n=4), 5.7 mm on average. Larval cases are covered by small particles of lichens and soil, dark brownish to grey. The edges of larval cases are indistinctly pronounced.

Bionomics: Cases with pupae were collected on the northern sides of rocks and stones at an altitude of approximately 1.800 m during the first decade / 10 days of June (fig. 5). Most probably, the larvae feed on lichens. The adults emerged after one week during the middle of June. Few small cases of similar appearance but of half the length and containing pupae are found on the same rocks and stones. Maybe these are conspecific, completing development after an additional year.

Distribution: At present *D. navacerradensis* is known only from the type locality. Its occurrence can be expected also from other parts of the "Sistema Central", the mountain ranges at the centre of the Iberian Peninsula (Spain: Sierra de Guadarrama, Sierra de Gredos, Sierra de Gata, Sierra de Ayllón and Portugal: Sierra da Estrela).

Etymology: Named after its type locality the Navacerrada pass in the southern Sierra de Guadarrama Mountains, Spain.

Remarks: There are only six species of Dahlicini (Naryciinae) known from Spain: *Dahlica larella* (Chrétien, 1906), *Dahlica rebeli* (Wehrli, 1924), *Dahlica rianella* Hättenschwiler, 1981, *Dahlica triquetrella* (Hübner, [1813]), *Siederia alpicolella* (Rebel, 1919) and *Brevantennia pinkeri* Sieder, 1964 (SOBCZYK 2011, ARNSCHEID 2012).

**Table 1.–** Overview of male characters of those *Dahlica* species which occur in western Europe and with similar morphological appearance. Species written in bold are known from Spain. Data from ARNSCHEID (1981), CHRÉTIEN (1905), DIERL (1966), GOZMÁNY (1952), HÄTTENSCHWILER (1977, 1981, 1997) and SAUTER (1956, 1958).

| ***Dahlica*** | | **Genital index** | **Forewing scale** | **Wingspan** |
|---|---|---|---|---|
| ***navacerradensis*** | Sobczyk, sp. n. | 1.68-1.82 | 4 | 12.2-12.6 |
| *argenterae* | (Wehrli, 1924) | 1.65 | 4-5 | 13.5-14.5 |
| *generosensis* | (Sauter, 1954) | 1.51-1.89 | 2-3 | 11.0-15.0 |
| *goppensteinensis* | (Sauter, 1954) | 1.48-1.89 | 2-3 | 12.0-17.0 |
| ***larella*** | (Chrétien, 1906) | 1.08 | 4 | 12.2-12.6 |
| *leoi* | (Dierl, 1970) | 1.20-1.44 | 2-3 | 11.4-13.8 |
| ***rebeli*** | (Wehrli, 1924) | 1.45 | 2 | 11.4-12.4 |
| ***rianella*** | Hättenschwiler, 1981 | 1.12-1.30 | 4-6 | 11.5-13.5 |
| ***triquetrella*** | (Hübner, [1813]) (bisex.) | 1.49-1.96 | 3-5 | 13.5-18.5 |
| *wehrlii* | (Müller-Rutz, 1928) | 1.50-1.71 | 2 | 14.5-17.5 |

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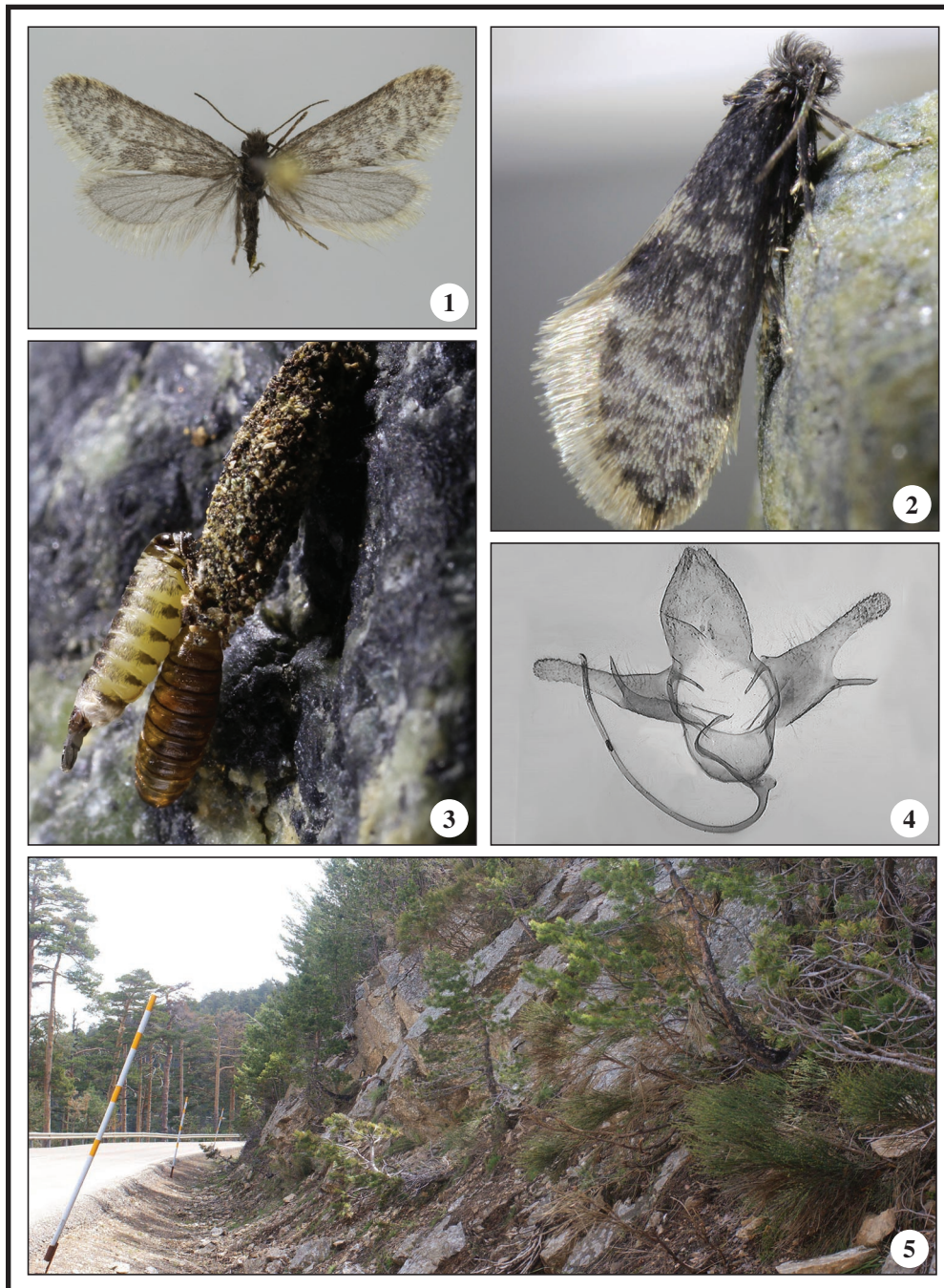


**Figs. 1-5.–** *Dahlica navacerradensis* Sobczyk sp. n. **1.** Holotype; **2.** Paratype ♂; **3.** Paratype ♀ with larval case; **4.** Male genitalia paratype (prep. Gen. 23-2013 Sobczyk); **5.** Habitat of *Dahlica navacerradensis* Sobczyk sp. n.